

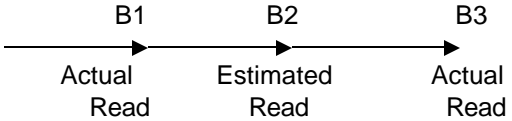
## Estimation Situations and Customer Notifications

Situation	Example	Customer Notification: Normal Bill or Estimated Bill	Participants Comments
1. No meter read.	No access (inclement weather, locked gate, bad dog).	Estimated bill is produced.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Navopache same process. APS same process.
2. Rate change in middle of billing cycle.	Bill cycle is from 15 <sup>th</sup> to 15 <sup>th</sup> rate changes on the 1 <sup>st</sup> of the month.	Bill is prorated based on the number of days at each billing rate. A normal bill will be produced when an actual read is obtained.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Navopache same process. APS same process.
3. Read is received to early or late for billing.	Customer self-reads meter <b>too early</b> , or a read is obtained on a district or investigation and is before normal read date.	Estimated bill is produced.	TEP – If read is received within 2 days of normal read date normal bill is produced otherwise an estimated bill is rendered. SRP would send out regular bill. UNS ELECTRIC. SSVEC – bill at actual route read date. Mohave – would pro-rate the usage to the normal read date. Navopache – APS –
	Customer self-reads meter <b>too late</b> or a read is obtained on a district or investigation and is after the normal read date.	Estimated bill is produced.	TEP – If read is received within 2 days of normal read date normal bill is produced otherwise an estimated bill is rendered SRP would send out regular bill. UNS ELECTRIC SSVEC –. Mohave – would pro-rate the usage to the normal read date. Navopache – APS –.

## Estimation Situations and Customer Notifications

4. Situation	Example	Customer Notification: Normal Bill or Estimated Bill	Participants Comments
5. Total meter failure.	<p>Unable to get a valid read from meter at read B2.</p> <p> </p> <p>Actual Read                  Invalid Read                  Actual Read  (zero or partial usage)</p>	<p>B1 a normal bill is produced.</p> <p>B2 a normal bill is produced and an investigation order is sent out.</p> <p>B3 an estimated bill is produced.</p>	<p>TEP same process.</p> <p>UNS ELECTRIC same process.</p> <p>SSVEC same process.</p> <p>Navopache same process.</p> <p>APS same process.</p>
6. Partial meter failure.	<p>a) Incorrect constant</p> <p>b) Meter test fast or slow</p> <p>c) Know error % in known time period, partial registration</p> <p>d) Bad phase or CT ratio incorrect.</p> <p>A meter investigation would be completed between bills 2 and 3 and meter would be replaced.</p>	<p>a) Normal bill is produced.</p> <p>b) Estimated bill is produced.</p> <p>c) Normal bill is produced.</p> <p>d) Normal bill is produced.</p>	<p>TEP same process.</p> <p>UNS ELECTRIC same process.</p> <p>SSVEC same process.</p> <p>Navopache same process.</p> <p>APS same process.</p>
7. Incorrect electronic read.	Probe, digital, remote read is bad but can get manual read from meter.	Normal bill is produced.	<p>TEP same process.</p> <p>UNS ELECTRIC same process.</p> <p>SSVEC same process.</p> <p>Navopache same process.</p> <p>APS same process.</p>
8. Tariff calls for estimation of usage.	Unmetered services (street lights)	Normal bill is produced.	<p>TEP same process.</p> <p>UNS ELECTRIC same process.</p> <p>SSVEC same process.</p> <p>Navopache same process.</p> <p>APS same process.</p>
9. Load Profile or interval metered.	Refer to Arizona Validating, Editing, and Estimating (VEE) monthly and interval data at <a href="http://www.cc.state.az.us/utility/electric/index.htm">www.cc.state.az.us/utility/electric/index.htm</a>	Normal bill is produced.	<p>TEP same process.</p> <p>UNS ELECTRIC N/A at this time.</p> <p>SSVEC same process.</p> <p>Navopache same process.</p> <p>APS same process.</p>

## Estimation Situations and Customer Notifications

10. Situation	Example	Customer Notification: Normal Bill or Estimated Bill	Participants Comments
11. Tampering.	Customer bypasses the meter (meter inversion)	Estimated bill is produced.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Navopache same process. APS same process.
12. Erroneous software or hardware interface.	Various computer system (s) did not interface successfully.	Estimated bill is produced.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Navopache same process. APS same process.
13. Valid read following estimated bill.	 <pre> graph LR     B1[B1] --&gt; B2[B2]     B2 --&gt; B3[B3]     B1 --- AR1[Actual Read]     B2 --- ER[Estimated Read]     B3 --- AR2[Actual Read] </pre>	Only bill in time period 2 is considered estimation.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Navopache same process. APS same process.

## Estimation Procedures

Situation	History	Procedure	Participants Comments
Need to estimate <b>kWh</b> and have <b>at least one years history</b> available.	Have at least 12 months of data on same customer same premise.	A) Use same month last year B) Previous Month C) Prior year/prior month  Utilities use different combinations of these methodologies to estimate bills but all 3 procedures are considerations.	TEP same process. UNS ELECTRIC same process. SSVEC same process. Mohave – same process. Navopache – please clarify. APS same process.
Need to estimate <b>kWh</b> and <b>limited history</b> available.	Limited history available on same customer same premise. History available for less than a year.		TEP uses load profile of like customers. APS uses per day usage with seasonal considerations, (75%) as available as above or previous tenant history. SRP would bill at zero. UNS ELECTRIC bill zero usage. SSVEC – Over 10 days bill at zero. Mohave – needs clarification on this situation. Navopache – please clarify.
	Limited history available on new customer with premise history. History available for a year.		APS then uses seasonal evaluations averaging most recent seasonal use. Per diem average for partial months. TEP use trending and load profiling. SRP uses Customer Usage (CUP) Patterns of like accounts. UNS ELECTRIC bill zero usage. SSVEC – Over 10 days bill at zero with basic charges. Mohave – If what is meant is that we have less than a years worth of history, then we would prorate the bill to the normal read date. Navopache – please clarify.
	Limited history available on new customer new premise. History available for less than a year		

## Estimation Procedures

Situation	History	Procedure	Participants Comments
Need to estimate <b>kWh</b> and <b>no history</b> available.	No History available on new customer new premise.		TEP would estimate with Segment profiling. TRICO said no read, no bill. Grand Canyon said no consumption would be billed but basic charges would be applied. SRP said 5 days or less will hold over until next months bill. 5 days or more, will estimate using CUP. APS said less than 10 days, no estimate. Over 10 days, 20 kWh per day on initial bill, estimate thereafter using the “estimator”. APS uses class daily average or “minimum usage”. UNS ELECTRIC 5 days or less, will hold to next months bill or bill zero usage. SSVEC over 10 days bill at zero with basic charges. Mohave would prorate the bill to the normal read date. Navopache – please clarify.
Need to estimate <b>kW</b> and have <b>at least one years history</b> available.	Have at least 12 months of data on same customer same premise.		
Need to estimate <b>kW</b> and <b>limited history</b> available.	Limited history available on same customer same premise. History available for less than a year.		
	Limited history available on new customer with premise history. History available for a year.		
	Limited history available on new customer new premise. History available for less than a year		
Need to estimate <b>kW</b> and <b>no history</b> available.	No History available on new customer new premise.		

Estimation Procedures

Situation	History	Procedure	Participants Comments
Need to estimate <b>TOU</b> and have <b>at least one years history</b> available.	Have at least 12 months of data on same customer same premise.		
Need to estimate <b>TOU</b> and <b>limited history</b> available.	Limited history available on same customer same premise. History available for less than a year.		
	Limited history available on new customer with premise history. History available for a year.		
	Limited history available on new customer new premise. History available for less than a year		
Need to estimate <b>TOU</b> and <b>no history</b> available.	No History available on new customer new premise.		

Note: R14-2-210